

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-019414**Date Inspected:** 10-Jan-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Mr. Qiu wei**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Orthotropic Box Girder( OBG)**Summary of Items Observed:**

This CALTRANS OSM Quality Assurance Inspector (QA) Surendra Prabhu was present during the times noted above for observations relative to the fabrication of the Self Anchored Suspension (SAS) Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

OBG Assembly Bay- 14.

The following Non Destructive Testing (NDT) Inspection was carried out as per the ZPMC submitted Notification No.08119.

**Ultrasonic Testing (UT)**

This QA performed UT of approximately 10% of the area previously tested and accepted by ZPMC Quality Control (QC) personnel. This QA generated UT report for this date. The member is identified as OBG weld Components. Total number of welds UT Tested: 2 No's. The weld designations inspected were as follows:

1. SEG3020W-031, 033

This QA Inspector randomly observed the following work in progress:

Flux Cored Arc Welding (FCAW) welding of weld joint identified as SEG3020BB-046. Welder is identified as

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066695. ZPMC Quality Control (QC) is identified as Mr. Zhulin. The welding variables recorded by QC personnel observed appeared to comply with WPS: WPS-B-T-2232-ESAB.

FCAW welding of weld joint identified as SEG3020BB-010. Welder is identified as 066236. ZPMC Quality Control (QC) is identified as Mr. Zhulin. The welding variables recorded by QC personnel observed appeared to comply with WPS: WPS-B-T-2232-ESAB.

FCAW welding of weld joint identified as SEG3020BB-001. Welder is identified as 067949. ZPMC Quality Control (QC) is identified as Mr. Zhulin. The welding variables recorded by QC personnel observed appeared to comply with WPS: WPS-B-T-2232-ESAB.

FCAW welding of weld joint identified as SEG3020V-073. Welder is identified as 045175. ZPMC Quality Control (QC) is identified as Mr. Zhulin. The welding variables recorded by QC personnel observed appeared to comply with WPS: WPS-B-T-2233-ESAB.

Shielded Metal Arc Welding (SMAW) Repair welding of weld joint identified as SA7512C-248. Welder is identified as 045246. ZPMC Quality Control (QC) is identified as Mr. Zheng zhi wei. The welding variables appeared to comply with the Applicable WPS: WPS-345-SMAW-1G(1F)-FCM-Repair. The repair welding was being performed as per the Critical Welding Repair Report (CWR) No: B-CWR2733. This weld was previously rejected by ZPMC UT Technicians and recorded on UT report no.B787-UT-18524R1.

SMAW Repair welding of weld joint identified as SEG3013Q-114. Welder is identified as 066781. ZPMC Quality Control (QC) is identified as Mr. Liu fang. The welding variables recorded by QC personnel observed appeared to comply with WPS: WPS-345-SMAW-3G (3F)-FCM-Repair. The repair welding was being performed as per the Welding Repair Report (WRR) No: B-WR19935.

SMAW welding of weld joint identified as SEG3013AA-085,086. Welder is identified as 069841. ZPMC Quality Control (QC) is identified as Mr. Liu fang. The welding variables recorded by QC personnel observed appeared to comply with WPS: WPS-B-P-2214-TC-U4b-FCM.

During random in process visual inspection this Caltrans QA Inspector observed the width of a single weld pass was measured to be approximately 20 mm on deck panel diaphragm plate buttering performing area. This welding was

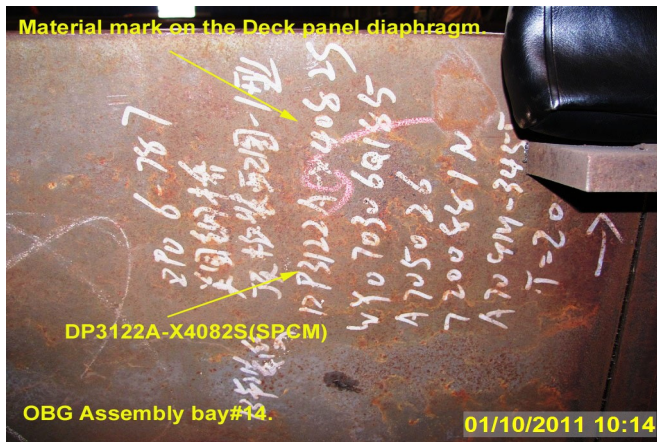
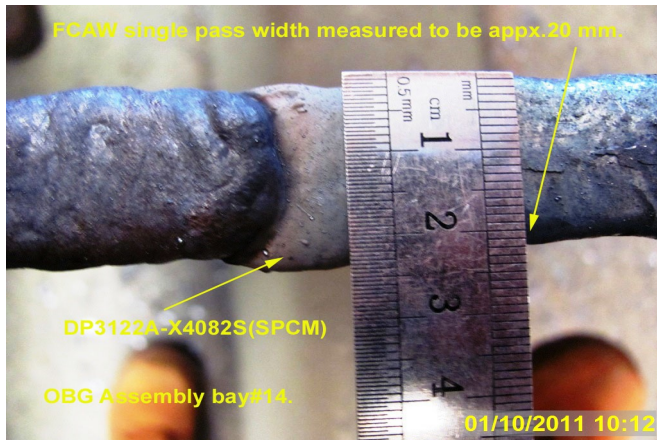
being performed in the flat (1G) position. The welding process performed was Flux Cored Arc Welding (FCAW). As per

AWS D1.5 2002 Section 4.14.1.5 FCAW the maximum FCAW single weld pass width allowed in this position is 16mm. The member is identified as DP3122A-X4082S. The thickness of the material is 20 mm. This QA informed ZPMC Quality Control (QC) Inspector identified as Mr. Zhang zhi wei of this issue. Mr. Zhang zhi wei informed this QA that the in future all FCAW welding shall be performed in a manner compliant with the contract documents. This QA also informed the above issue to shop Lead QA inspector (verbally). Refer the attached photos for reference.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

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## Summary of Conversations:

No significant conversations were reported on this date.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang 15000422372, who represents the Office of Structural Materials for your project.

**Inspected By:** Prabhu,Surendra

Quality Assurance Inspector

**Reviewed By:** Peterson,Art

QA Reviewer